



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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CHICAGO, IL 60604-3590

JAN 18 2017

REPLY TO THE ATTENTION OF:
E-19J

Mr. Kip Runyon
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, Missouri 63103-2833

Re: Mississippi River Between the Ohio and Missouri Rivers Regulating Works
Draft Supplemental Environmental Impact Statement; CEQ No. 20160256

Dear Mr. Runyon:

The U.S. Environmental Protection Agency has reviewed the U.S. Army Corps of Engineers' (Corps) Draft Supplemental Environmental Impact Statement (DSEIS) pursuant to our authorities under the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act, and Section 404 of the Clean Water Act. These comments reflect collaboration by EPA Regions 5 (Chicago office) and 7 (Kansas City office).

The Corps' Regulating Works Project utilizes bank stabilization, rock removal, and sediment management to maintain bank stability and ensure adequate navigation depth and width, as authorized by Congress. The Project's long-term goal is to maintain a navigation channel and reduce federal expenditures by minimizing the amount of annual maintenance dredging of the channel. This DSEIS updates the 1976 EIS "Mississippi River between the Ohio and Missouri Rivers (Regulating Works)." The Corps intends to use this document programmatically to describe the broad impacts of the Project on the environment while characterizing future site-specific impacts of individual projects in environmental assessments tiered from this DSEIS.

The DSEIS evaluates two alternative actions consisting of the continuing construction of new river training structures or revetments ('no action') and the continued maintenance of existing structures without new construction ('no new construction'). Both alternatives include continuing some maintenance dredging of the navigation channel. The Corps' 'preferred alternative' is the 'no action' alternative, which would continue the construction of new river training structures. This alternative would require less maintenance dredging quantities than the 'no new construction' alternative.


EPA has rated this alternative as LO (Lack of Objection). Detailed comments and a copy of EPA's rating descriptions are included as enclosures to this letter. We recommend that the Corps not proceed with further river training structure construction until the planned "main channel

border habitat model” is finalized and can be utilized to quantify habitat loss and to guide compensatory mitigation.

We also concur with the Corps’ assessment of the potential effects of the Regulatory Works Project on flood levels. The Corps concludes that placement of structures constricting flow and reducing conveyance within the floodplain during higher river stages, specifically the construction of levees, is primarily responsible for stage increases at overbank flows.

If you have any questions regarding these comments, please contact me at (312) 886-2910 or westlake.kenneth@epa.gov or Mr. Josh Tapp, Deputy Division Director, Environmental Sciences and Technology Division, Region 7, at (913) 551-7606 or tapp.joshua@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth A. Westlake", written in a cursive style.

Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure – Summary of Rating Definitions
Draft Supplemental EIS Detailed Comments, dated January 18, 2017

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS state, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment

Mississippi River Between the Ohio and Missouri Rivers (Regulating Works) Draft
Supplemental EIS Detailed Comments
January 18, 2017

General Comments

The DSEIS would be improved with an inventory and prioritization of reach locations where the Corps expects greater need for either new structure construction, mitigating structure modifications or mitigation projects. This could include locations with a past history of repeated dredging needs, a high potential for avulsion, bank erosion or failure, or a higher potential for damage to sensitive aquatic life or critical habitat from continual dredging. These circumstances all suggest the need for new or modified training structures or revetments.

Treatment of the DSEIS as a Programmatic NEPA Compliance Document

In reviewing the DSEIS, EPA assumes that planning for each site-specific project will also include a Tier II site-specific Environmental Assessment in addition (SSEA) to the NEPA coverage provided by the SEIS. If this is not the case, the Final SEIS should identify the protocol by which the Corps will determine whether a SSEA is required for individual projects.

Affected Environment

The DSEIS extensively characterizes channel, main channel border, backwater, side channel, and floodplain habitat in various locations throughout the document. Section 3.2.3 separately inventories and characterizes side channels and side channel environment under Section 3.2, Physical Resources. The DSEIS would be improved if the characterization of these other riverine habitats were similarly contained and organized within Chapter 3. Main channel, main channel border, and side channel biological resources are organized and characterized in Section 3.3 as biological resources. Similar treatment of these resources in Section 3.2, Physical Resources, would be useful.

The DSEIS includes multiple references to existing research which attributes stage rise to the constriction of the floodplain by levees and other infrastructure. In debunking claims that Corps regulatory works in the Middle Mississippi River raise river stage in Appendix A, the DSEIS diverts responsibility toward historic floodplain constriction as the overwhelming cause of past, and presumably future, river stage elevation. We agree with this assessment and support the Corps in its efforts to limit floodplain development and all efforts to realign existing levees to provide increased exposure of floodplains to elevated river flows.

Table 3-6, comparing the acreage of main channel, main channel border and side channel habitat in the MMR in 1976 with 2014, illustrates habitat changes within the River since the last EIS. EPA recommends the Corps consider repeating that table elsewhere in the document as it supplements text on important riverine habitat, impacts on that habitat, and restoration/mitigation priorities.

The DSEIS characterizes mussel populations within the main-channel border and the main channel of the MMR as insubstantial due to limited habitat. What populations are present within the MMR are likely limited to the floodplain and side channels. The document does not provide

an assessment of project impacts on mussels given their limited presence. The Missouri Department of Conservation generally confirms the Corps' assessment of the MMR's mussel population. However, we strongly suggest that Federal and state natural resource agencies should be consulted as part of each site-specific project to confirm mussel status in each local instance.

Environmental Consequences

As identified earlier, organizing impacts on physical resources by component habitat types would improve the readability of the analysis of these impacts. Currently, the DSEIS includes a detailed habitat impact discussion within sections addressing biological resources.

The document characterizes river training structure impacts on various riverine habitat as generally providing an increase in low-velocity habitats, particularly shallow, low velocity habitat, while decreasing shallow to moderate-depth, high velocity habitat. This moderate-depth, high velocity habitat resembles the unstructured main channel border habitat which has decreased in the MMR with the placement of training structures since 1976. The DSEIS notes that these changes affect the fish species utilizing these different habitat types. In addition, migrating fish species could experience difficulty traversing complex flow patterns created by training structures along the main channel border. This shift in habitat types significantly affects the MMR fish community, and the DSEIS acknowledges that compensatory mitigation is warranted. The planned main channel border habitat model is intended to both characterize habitat loss and guide mitigation of damaged and lost habitat. We strongly recommend that the Corps not proceed with the construction of additional regulating structures until the main channel border habitat model is completed and site-specific structure design and mitigation needs can be identified for each site.

The DSEIS indicates that the Corps does not expect implementation of the preferred alternative to result in an increase in commercial traffic within the MMR. We recommend that the Corps revisit its NEPA compliance for the Regulatory Works Project should the transportation profile of the System change with the expansion of the project's structure coverage.

If a Biological Assessment (BA) has been prepared in conjunction with the preparation of the DSEIS, EPA recommends the Final SEIS provide an analysis of species impacts, rather than defer completely to successive SSEAs. We also recommend any correspondence received from USFWS pertaining to the BA should be incorporated into the Final SEIS.

Mitigation, Restoration and Endangered Species Act Efforts

The explanation on page 24 of the DSEIS that compensatory mitigation for project impacts is intended in the NEPA sense rather than as used under Section 404 of the Clean Water Act (CWA) is confusing. As mitigation for adverse impacts associated with regulating structures is critical to the NEPA analysis, additional explanation of this distinction would better support the overall impacts assessment.

The DSEIS would be improved with an inventory of all efforts to date to construct and restore habitat within the MMR under multiple authorizations (e.g., Upper Mississippi River Restoration Program (UMRR), Endangered Species Act, and CWA). A table listing the number, locations, and purpose of projects since the 1976 EIS would provide the reader with an important gauge of

the restoration efforts to date in the MMR (e.g., sturgeon habitat mitigation, compliance with 1990 Biological Opinion, etc.). The 1976 EIS predates most, if not all, of the restoration programs currently implemented on the Upper Mississippi River (e.g., UMRR, formerly known as the Environmental Management Program, was authorized in 1986). It is our understanding that very few projects implemented as part of the UMRR have been conducted within the MMR.

The Corps' explanation that mitigation would only be considered for adverse project effects occurring since the Notice of Intent is not compelling. As a supplement to the 1976 EIS, the SEIS should identify any mitigation deficit from past projects as part of its cumulative impacts analysis. The adverse impacts of the entire Regulatory Works Project should be identified along with any mitigation efforts occurring as part of the Regulatory Works Project or the UMRR.

The Corps' position regarding discretionary mitigation for fish and wildlife damages arising from project actions under Section 906(b) of the Water Resources Development Act of 1986, based on the project construction prior to 1986, does not seem logical. With the construction of new structures and features as part of an expanding Regulatory Works Project, mitigation for natural resource damages should be mandatory. Later text in the Mitigation Plan states that Habitat Units "lost that are determined to be a 'significant' impact would require mitigation." EPA recommends that no project construction move forward without detailed, site-specific mitigation plans in place. As we recommended in earlier comments, project implementation should not proceed without finalization and implementation of the Corps' planned main channel border habitat model.

Air Quality and Construction Emission Control Efforts

EPA recognizes that diesel emissions and fugitive dust from project construction may pose environmental and human health risks and should be minimized.¹ We recommend the Corps consider the following protective measures, discuss emissions reduction measures regularly employed on construction/dredging equipment, and commit to applicable measures from the following list in the Final SEIS and Record of Decision.

Mobile and Stationary Source Diesel Controls

Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or the most advanced emission control systems available. Commit to the best available emissions control technologies for project equipment in order to meet the following standards.

- On-Highway Vehicles: On-highway vehicles should meet, or exceed, the EPA exhaust emissions standards for model year 2010 and newer heavy-duty, on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle buses, etc.).²
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks, etc.).³

¹ In 2002, EPA classified diesel emissions as a likely human carcinogen, and in 2012 the International Agency for Research on Cancer concluded that diesel exhaust is carcinogenic to humans. Acute exposures can lead to other health problems, such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues. Longer term exposure may worsen heart and lung disease. See: https://www3.epa.gov/region1/eco/diesel/health_effects.html

² <http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm>

³ <http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm>

- Marine Vessels: Marine vessels servicing infrastructure sites should meet, or exceed, the latest EPA exhaust emissions standards for marine compression-ignition engines (e.g., Tier 4 for Category 1 & 2 vessels, and Tier 3 for Category 3 vessels).⁴
- Low Emission Equipment Exemptions: The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available

Consider requiring the following best practices through the construction contracting or oversight process:

- Use onsite renewable electricity generation and/or grid-based electricity rather than diesel-powered generators or other equipment.
- Use ultra-low sulfur diesel fuel (15 ppm maximum) in construction vehicles and equipment.
- Use catalytic converters to reduce carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.
- Use electric starting aids such as block heaters with older vehicles to warm the engine.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning).
- Retrofit engines with an exhaust filtration device to capture diesel particulate matter before it enters the construction site.
- Repower older vehicles and/or equipment with diesel- or alternatively-fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.).
- Retire older vehicles, given the significant contribution of vehicle emissions to the poor air quality conditions. Implement programs to encourage the voluntary removal from use and the marketplace of pre-2010 model year on-highway vehicles (e.g., scrappage rebates) and replace them with newer vehicles that meet or exceed the latest EPA exhaust emissions standards.

Fugitive Dust Source Controls

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

⁴ <http://www.epa.gov/otaq/standards/nonroad/marineci.htm>

Occupational Health

- Reduce exposure through work practices and training, such as turning off engines when vehicles are stopped for more than a few minutes, training diesel-equipment operators to perform routine inspection, and maintaining filtration devices.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.
- Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on the type of work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number.

Cumulative Impact Analysis

The DSEIS concludes, in Section 4.6.6, that the cumulative impacts of the project in combination with other past, present and future actions affecting the Upper Mississippi River System do not "rise to a level of significance." The historical impact of creating and maintaining a system of navigation on the Mississippi River has resulted in significant changes to hydrology and ecology of the River and its floodplain. The purpose of the NEPA document is to characterize the impacts of a proposed Federal action and, by definition, an EIS is required when the project has significant impacts. The Corps has already determined that there are significant impacts resulting from continuing operation of the Regulating Works Project warranting an EIS. It is not clear why the Corps would make such a statement in this document. The Corps' reference to the significance level of "incremental impacts" is contrary to the concept of cumulative impact analysis.

The DSEIS does not adequately address the potential for excessive river bed scouring or bed loss. Combined with commercial dredging, the placement of dams on tributary rivers, and bank revetments, the continuing placement of river training structures could contribute to excessive sediment scouring in portions of the navigation channel. Bed loss affects floodplain ecology by lowering the groundwater level in the floodplain, could result in head cutting in tributary rivers, isolates backwaters and side channels, and could also threaten infrastructure within the main channel and channel margin. With the narrow exception of the impacts of bed lowering on side channel habitat, the DSEIS does not address the potential for unintended bed loss in select reaches resulting from continued training structure placement. Appendix A, Effects of RTS on Flood Levels, acknowledges the impact of training structures on bed and surface water elevations in multiple document locations. The Kansas City District of the Corps is presently investigating the impacts of and solutions to bed loss, within the navigable portion of the Missouri River, particularly in the St. Joseph to Kansas City reaches. River training structure modification is being considered as a potential remedy to slowing continuing bed loss. Consequently, EPA recommends the Final SEIS include a more robust cumulative impacts analysis incorporating the above.

Climate Adaptation

The DSEIS characterizes projected changes to regional climate within the MMR watershed based on its 2015 Civil Works Technical Report. However, it is not clear within the DSEIS that an analysis was conducted of projected changes in precipitation levels and subsequent shifts in hydrology and sediment movement as related to project performance, particularly under extreme high and low flows. This analysis is critical as changes in the hydrology in these watersheds could affect the navigational capability of and demands on the project.

EPA recommends the Corps provide a more robust discussion of its analysis to include the anticipated effect of projected changes in flow regime and consideration of extreme high and low flows on the project.

Editorial Comments

Terms such as “river forecast,” “river cutoff,” and “placement of hard points” may not be readily understood by reviewers. EPA recommends these terms be explained in the Final SEIS (e.g., as a footnote).

Reference to Table 4-3 in the section entitled “Interrelated Effects” (page 280) appears to be incorrect. EPA recommends this section refer to Table 4-1.